AGRICULTURAL LAND CLASSIFICATION

PROPOSED RIPON BYPASS

Report prepared for
North Yorkshire County Council

MAFF
Leeds Regional Office

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CONTENTS

MAPS

AGRICULTURAL LAND CLASSIFICATION
ON THE PROPOSED RIPON BYPASS

1. INTRODUCTION AND SITE CHARACTERISTICS

The proposed bypass runs from the A61 south of Ripon at National Grid reference SE 310690 in a north easterly direction to the B6265 Boroughbridge Road at NGR SE 320707. From here it follows a northerly direction close to the line of the disused Harrogate-Ripon railway as far as the River Ure which it crosses in a north easterly direction to rejoin the A61 at Ure Bank (NGR 321724).

Survey work was carried out in March 1991 when soils were examined by hand auger borings at 100 m intervals following a 100 m corridor along the proposed route.

All assessments of agricultural land quality were made using the methods described in "Agricultural Land Classification of England and Wales: Revised guidelines and criteria for grading the quality of Agricultural Land" MAFF (1988).

Land Use

Agricultural land along the proposed route is in arable use or under permanent pasture. Non agricultural and urban land consists of derelict land, parkland, the dismantled railway and industrial buildings.

Climate

Average annual rainfall (AAR) is approximately 652 mm. Accumulated temperature above 0°C (ATO) between January and June is 1361 day°C and the land is at field capacity for 162 days a year. The above temperature and rainfall values indicate that there is no overall climatic restriction on agricultural land quality along the proposed route.

Geology and Soils

Soils along the proposed route are formed on boulder clay and coarse glaciofluvial and recent drift which forms a thick cover over the underlying Permian limestones and mudstones.

Topsoils vary from sandy loam to medium clay loams over similar subsoils, with variable degrees of stoniness. Most soils fall into Wetness Classes I-III (well to imperfectly drained) depending on depth to slowly permeable layer and topsoil texture. Poorly drained soils (Wetness Class IV) occur only where gleyed slowly permeable heavy clay loam or clay subsoils lie close to the surface. Soils of this type are common and near Skittergate Gutter towards the northern end of the route and near Bellwood Farm in the south.

2. AGRICULTURAL LAND CLASSIFICATION GRADES

The ALC grades occurring on the land to be taken by the bypass are shown below. (The 1/10000 maps produced with this report show land grades along the entire 100 m survey corridor which covers a larger area.) Maps showing these land grades imposed onto the engineers drawings have been produced at a scale of 1/2500 and supplied separately. The statistics produced below relate to these 1/2500 maps only.

Grade	Hectares	Percentage of roadworks
2	2.83	13.7
3a	4.15	20.1
3b	3.01	14.5
4	0.78	3.8
Non Agric	1.24	6.0
Urban	8.60	41.5
Open Water	0.09	0.4
TOTAL	20.7	100

Grade 2

Land in this grade is common near the Ure and south of Greystone Lane. Soils are formed on recent alluvium or glaciofluvial drift and are all well or moderately well drained, falling within Wetness Classes I and II. Profiles consist of stoneless medium clay loam topsoils and upper subsoils passing occasionally into sandy textured lower subsoils at depth. The main limitation on ALC grade is slight winter wetness.

Subgrade 3a

Subgrade 3a land is most widespread in the area around Littlethorpe Lane. Soils consist of slightly stony sandy loam or sandy clay loam topsoils and upper subsoils over post glacial and recent gravels. Soil droughtiness is the main limiting factor on ALC grade.

Subgrade 3b

Land in this subgrade is scattered along the route. Soils consist of medium to heavy clay loam topsoils over gleyed and slowly permeable boulder clay. Soil wetness and workability problems are the limiting factors on ALC grade. Also included within this subgrade are some areas with slopes greater than 7°. This limits the use of farm machinery and places an overriding restriction on ALC grade.

Grade 4

This area is limited to Grade 4 by gradients of between 11° and 18°.

Non Agricultural

Land in this category consists of parklands and fields not used for agricultural production.

Urban

This includes industrial buildings, the dismantled railway, roads, tracks and urban dwellings.

Resource Planning Group
Leeds Regional Office
March 1991

RIPON BYPASS

Schedule of Soil Auger Borings

Glossary

ms = medium sand
lms = loamy medium sand
msl = medium sandy loam
fszl = fine sandy silt loam
mcl = medium clay loam

hcl = heavy clay loam

scl = sandy clay loam
fscl = fine sandy clay loam
c = clay

Soil Colours eg 10YR32 are standard colours from the Munsell Soil Color charts.

COMPLETE LIST OF PROFILES 11.3.91 RIPON BYPASS A61, NORTH YORKSHIRE

SAMPLE	DEPTH (CM)	TEXTURE	COLOUR
1	0-25	msl	10YR32
	25-60	lms	10YR43
	60-100	scl	10YR44
2	0-30	msl	10YR32
	30-100	mcl	10YR43
3	Slope of > 7°		
4	0-20	mcl	10YR32
	20-50	mcl	10YR54
	50-100	hcl	10YR52
5	Water (River Ure)		
6	0-20	mcl	10YR32
	20-50	mcl	10YR54
	50-100	hcl	10YR52
7	Urban		
8	0-25	msl	10YR32
	25-100	mcl	10YR53
9	Urban		
10	0-25	msl	10YR33
	25-60	msl	
	60+	gravel	
11	Urban		

SAMPLE	DEPTH (CM)	TEXTURE	COLOUR
12	Non Agricultural		
13	Non Agricultural		
14	0-25	hcl	10YR3/L
	25-100	hcl	gley
15	Urban		
16	0-30	hcl	
	30-100	hcl	gley
17	Urban		
18	0-30	msl	10YR3/3
	30-60	scl	10YR5/4
	60+	gravel	
19	Urban		
20-27	Urban		
28	0-30	msl	10YR32
	30-100	msl	10YR43
29	0-25	msl	10YR31
	25-40	msl	10YR34
	40-80	ms	10YR44
	80-100	c	10YR34
30	0-25	msl	10YR31
	25-100	ms	10YR34

SAMPLE	DEPTH (CM)	TEXTURE	COLOUR
31	0-25	msl	10YR31
	25-50	scl	10YR34
	50-100	ms	10YR44
32	0-25	msl	10YR32
	25-100	msl	10YR43
33	0-25	msl	10YR32
	25-70	scl	10YR43
	70-100	ms	10YR43
34	0-40	lms	10YR31
	40-100	scl	10YR44
35	0-25	msl	10YR32
	25-100	msl	10YR43
36	0-60	msl	slope › 11° 20% stones
37	0-40	scl	10YR32
	40-65	fszl	75YR54
38	0-40	scl	10YR32
	40-60	szl	75YR54
39	0-25	mcl	10YR33
	25-70	mcl	10YR54
	70-100	mcl	10YR54
40	0-30	fscl	10YR33
	30-100	c	10YR64
41	0-30	msl	10YR32
	30-100	scl	10YR44

MAPS